

APPENDIX A

CONTAMINATED SEDIMENTS SCIENCE ACTIVITIES DATABASE

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This database was compiled in June 2000. Because U.S. EPA is now compiling an overall science activity inventory for the Agency, this database has not been fully revised to include all the contaminated sediments activities initiated since June 2000.

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|---|---------------|---|---|-------------------------------|
| Program Implementation <i>Activities related to implementing regulatory and remediation programs. These activities are applications of existing methods and technologies.</i> | OW/OWOW/OC PD | Dredged Material Bioaccumulation Evaluation Guidance. The Army Corps of Engineers and U.S. EPA are working jointly to develop guidance for evaluating dredged material bioaccumulation potential. | Dredged Material Programmatic Guidance <i>GPRA 2.2</i> | David Redford 202-566-1288 |
| | OW/OWOW/OC PD | Ocean Dredged Material Disposal Monitoring Program. Program calls for the continued monitoring of the nation's 85 dredged material disposal sites (Regional responsibility). | Ongoing monitoring <i>GPRA 2.2</i> | Sharon Lin 202-260-5129 |
| | OW/OST/SASD | Implementation Framework for the Use of Equilibrium Partitioning Sediment Guidelines. Document provides guidance for using ESGs appropriately and describes U.S. EPA's recommendations in using ESGs in conjunction with other assessment tools (bioassays and benthic community assessments). | Draft document <i>GPRA 2.2</i> | Richard Healy 202-260-7812 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------------------|--|---|--|
| | OW/OWOW/OCPD | Coastal monitoring by U.S. EPA OSV Peter W. Anderson. East and Gulf coastal monitoring of dredged material disposal sites, ocean discharges and sensitive areas focusing on water quality, sediment contamination and impacts on living resources such as coral reef ecosystems. | Ongoing monitoring <i>GPRA 2.2</i> | Craig Vogt 202-260-5455 |
| | Region 5/Water/ GLNPO | Remedial Action Plan (RAP) Program. RAP Liaisons develop/implement Remedial Action Plans (RAPs) for all Areas of Concern (AOCs) in the Great Lakes basin. RAPs address impairments to any one of 14 beneficial uses (e.g., restrictions on fish and wildlife consumption, dredging activities). | RAP Liaisons for each AOC Ongoing <i>GPRA 2.2</i> | Bonnie Eleder 312-886-4885 Judy Beck 312-353-3849 Francine Norling 312-886-0271 Liz LaPlante 312-886-0399 |
| | Region 5: TSCA | TSCA pilot. To provide WDNR the authority to approve disposal of TSCA regulated PCB-contaminated sediment from in-state clean up projects at state-permitted solid waste landfills. | Ongoing | John Connell 312-886-6832 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------------------|---|---|---|
| | Region 5 | Shorelands Initiative e. Proposed FY02 Cross-Program, Cross-Media Initiative: a cross-program multi-media approach to address the impacts of contaminated sediments in rivers, waterways, lakes, streams and harbors by providing economic incentives and providing opportunities for liability and regulatory relief. | Ongoing | Bonnie Eleder 312-886-4885 |
| | Region 6 | Alcoa/Lavaca Bay Remediation. This site covers approximately 60 square miles, and has sediments contaminated with mercury. This site is currently in the RI/FS phase. | Ongoing <i>GPRA 5.1</i> | Gary Baumgarten 214-665-6749 |
| | Region 9 | Regional Data Evaluation/Validation Approaches for Superfund Data Guidance (R9QA/006.1). | | Dawn Richmond |
| | Region 10 | Alaska Cruise Ship Initiative. | | Michael Watson |
| | Region 10 | Tribal Leaders Environmental Summit. | | Scott Sufficool |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------------------|--|--|--|
| | NHEERL/AED NHEERL/MED | Development of toxicity identification evaluation methods for porewaters and whole sediments. Methods will help further develop toxicity identification evaluation methods for porewaters and whole sediments in fresh and salt water. | <i>U.S. EPA report on whole sediment TIE methodology, expected FY 02, APM A77, FY01</i> <i>GPRA 2.2</i> | Kay Ho 401-782-3196 Dave Mount 218-529-5169 |
| | OW/OST/SASD | Field Validation Studies of long-term Sediment Toxicity Tests with <i>Hyalella azteca</i> and <i>Chironomus tentans</i>. This analysis is designed to evaluate the response of <i>H. azteca</i> and <i>C. tentans</i> in laboratory studies with the natural population of benthic organisms. | <i>Ongoing. Project is scheduled to be completed by the end of FY 01. GPRA #2</i> <i>GPRA 2.2</i> | Scott Ireland 202-260-6091 |
| | OW/OST/SASD | Equilibrium Partitioning Sediment Guideline (ESG) evaluation. This project will evaluate the <i>Leptocheirus plumulosus</i> chronic test responses to ESGs. | Work is ongoing. <i>Project is scheduled to be completed by the end of FY 01.</i> <i>GPRA 2.2</i> | Scott Ireland 202-260-6091 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|-----------------------|--|--|--|
| | OW/HECD ORD/NHEERL | Completion of Equilibrium Partitioning Sediment Guideline Documents for Nonionic Organics: Technical Basis, Site-Specific, Dieldrin, Endrin, and Nonionics Compendium. Provide U.S. EPA's recommended concentration of nonionic organic chemicals that can be present in sediments without causing acute or chronic toxicity to benthic organisms, the technical basis for the guidelines, and a site-specific methodology. | Draft documents completed <i>GPRA 2.2</i> | Heidi Bell: 202-260-5464 Mary Reiley: 202-260-9456 Dave Mount: 218-529-5169 |
| | OW/HECD ORD/NHEERL | Completion of Equilibrium Partitioning Sediment Guideline Document for Metals Mixtures. Provides U.S. EPA's recommended concentration of metal mixtures (Cu, Cd, Pb, Ni, Ag, Zn) that can be present in sediments without causing acute or chronic toxicity to benthic organisms. | Draft document completed <i>GPRA 2.2</i> | Heidi Bell: 202-260-5464 Mary Reiley: 202-260-9456 Walter Berry: 401-782-3101 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|-----------------------|---|--|---|
| | OW/HECD ORD/NHEERL | Draft Equilibrium Partitioning Sediment Guidelines Document for PAH Mixtures. Provides U.S. EPA's recommended concentration of PAH mixtures that can be present in sediments without causing acute or chronic toxicity to benthic organisms. | Draft document has been prepared for peer review. <i>GPRA 2.2</i> | Heidi Bell: 202-260-5464 Mary Reiley: 202-260-9456 Dave Mount: 218-529-5169 Bob Ozretich: 541-867-4036 |
| | OW/HECD ORD/NHEERL | Integrated Water Quality Criteria for Ambient Waters. Establish criteria that evaluate multiple routes of exposure and types of organisms. | Criteria documents and models. No anticipated date of delivery at this time. Project is in scoping stage. <i>GPRA 2.2</i> | Mary Reiley: 202-260-9456 Walter Berry: 401-782-3101 Bob Spehar: 218-529-5123 Dave Mount: 218-529-5169 |
| | NHEERL/MED | Development of methods for testing short-term and chronic toxicity of freshwater sediments. Methods have been developed and tested, and a round-robin was conducted. | Final document published <i>GPRA 2.2</i> | David Mount 218-529-5169 Theresa Norberg-King 218-529-5163 Scott Ireland 202-260-6091 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------|---|---|---|
| | NHEERL/AED | Development of alternate measures of benthic infaunal condition. The usefulness of new approaches for assessing benthic condition is being examined, including CatScan and methods for examining the effects of porewater ammonia. | Comparative estuarine method to discern and quantify the ecological effects of cumulative, multiple anthropogenic point sources on benthic communities, FY00. Sensitivity of NH3 porewater and tube/tunnel structures in soft bottom sediments and macrofaunal community composition to detect changes in season, habitat and estuarine system, FY01. <i>GPRA 2.2</i> | Ken Perez 401-782-3052 Kay Ho 401-782-3196 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|--|--------------|---|---|--|
| Effects Activities related to determining the effects of sediment contaminants on human and ecological receptors. These activities advance the state-of-the-art by development and verification of methods, models, protocols, and technologies. | NHEERL/MED | Horizontal and vertical heavy metal contamination in Lake Michigan. Lake-wide sampling and analysis of mercury in surface sediments and sediment cores is being done in coordination with the Lake Michigan Mass Balance Project and the Great Lakes National Program Office. Models are being developed to assess the effects of mercury to fish. | Data report of mercury in Lake Michigan and mathematical modeling relating sources to effects on fish, FY03. <i>GPRA 2.2</i> | Ron Rossman 734-692-7612 |
| | NHEERL/MED | Modeling of bioaccumulation of organic chemicals. Models are being developed to predict bioaccumulation of PBTs, such as dioxins, PCBs and PAHs, in fish and wildlife, in ecosystems with varying bioavailability of contaminants from sediment and water as well as differences in food web structures. | Improved models and tools, including integrated sediment/water quality criteria, for assessing risks associated with contaminated sediments on the basis of predicted residues in fish and wildlife, FY05. <i>GPRA 2.2</i> | Lawrence Burkhard 218-529-5164 Philip Cook 218-529-5202 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------|--|--|-----------------------------|
| | NHEERL/MED | Importance of dietary metals uptake in effects of metals-contaminated sediments. Experiments are underway to assess the effects of dietary metals originating from contaminated sediment on fish. | Published manuscripts, FY02. <i>GPRA 2.2</i> | David Mount 218-529-5169 |
| | NHEERL/AED | Field demographic study of amphipods. This project is exploring the usefulness of a field indicator of benthic condition using amphipod field demographics, and looks at geographic differences in sensitivity to contaminants. | Published manuscripts, FY00-04. <i>GPRA 2.2</i> | Anne Kuhn 401-782-3199 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------|--|--|---|
| | NHEERL/AED | Examine correlations between measured chemistry, acute toxicity, and benthic community data in field databases. The usefulness of measured chemistry data to predict biological effects from large field data bases (e.g., EMAP) will be examined using three approaches (equilibrium partitioning-derived sediment guidelines to predict acute toxicity to amphipods from measured chemistry data; measured chemistry data will be compared to benthic community data; a population model will be used to predict effects on the benthic community using acute toxicity data). | Manuscripts, FY02-04. <i>GPRA 2.2</i> | Anne Kuhn 401-782-3199 Walter Berry 401-782-3101 Marguarite Pelletier 401-782-3131 |
| | NHEERL/GED | Toxicity of contaminated sediments to aquatic plants and periphyton. Methods are being developed and applied for toxicity assessment using estuarine aquatic plants (primarily SAV) and periphyton. | Report on the use of periphyton as indicators of metal contaminants in estuaries, APM 551, FY00. Predictive laboratory phytotoxicity test methods on contaminated sediments using seagrasses, FY01. Report on effects of xenobiotics and nutrients on aquatic vegetation, FY03. <i>GPRA 2.2</i> | Michael Lewis 850-934-9382 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|-----------------------------------|--|---|---|
| | NCER/ STAR grants and HSRCs | Environmentally-Mediated Endocrine Disruption in Estuarine Crustaceans: A 3-Taxon Multi- Generational Study of Sediment- Associated EDC Effects from the Genetic to Population Levels | | G. Thomas Chandler, Ph.D. |
| | NCER/ STAR grants and HSRCs | Site-specific Validation of a Chronic Toxicity Test with the Amphipod <i>Hyaella azteca</i> : An Integrated Study of Heavy Metal Contaminated Sediments in Peak Creek, Virginia. | | John Cairns, Jr., B. R. Niederlehner, Reese Vosell, and Eric P. Smith |
| | NCER/ STAR grants and HSRCs | Phylogenetic Analysis of Microbial Communities in Contaminated Nearshore Marine Sediments. | | Russell P. Herwig |
| | NCER/ STAR grants and HSRCs | Foraminifera as Ecosystem Indicators: Phase 1. A Marine Benthic Perturbation Index; Phase 2. Bioassay Protocols. | | Pamela Hallock Muller |
| | NCER/ STAR grants and HSRCs | Sediment Contaminant Effects on Genetic Diversity New Approach using DNA Analyses of Meiobenthos. | | Bruce C. Coull, G. Thomas Chandler and Joseph M. Quattro |
| | NCER/ STAR grants and HSRCs | Digestive Solubilization of Sediment-Sorbed Contaminants A Comparison of In Vitro and In Vivo Processes. | | Donald P. Weston, Larry M. Mayer, and Deborah L. Penry |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|-----------------------------------|---|---|---|
| | NCER/ STAR grants and HSRCs | Transport of Polychlorinated Biphenyls from Adult Oyster <i>Crassostrea virginica</i> to Embryos and Larvae and Potential for Reproductive and Developmental Impairments. | | Fu-Lin E. Chu, Aswani K. Volety, and Robert C. Hale |
| | NCER/ STAR grants and HSRCs | Uptake of Sediment-Associated Contaminants by the Deposit-Feeding Amphipod <i>Leptocheirus Plumulosus</i> (Shoemaker): Effects of Natural Sediment Qualities. | | Christian Schlekot |
| | NCER/ STAR grants and HSRCs | Biochemical Indicator Patterns and their Linkages to Adverse Effects on Benthic Invertebrate Patterns. | | Teresa Fan, Richard Higashi |
| | NERL/EERD | Development of Indicators as Measures of Ecosystem Sustainability. Indicator methods can be used to measure PAH exposure, to determine exposure exceeding natural background, and to evaluate changes in exposure to petroleum and combustion by-product (PAH) waste in dredged streams. | Draft report on national background and exposure criteria for indicators of exposure to PAHs - FY02. <i>GPRA 2.2</i> | Susan Cormier 513-569-7995 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|-------------------------------|---|---|---|
| | OAQPS OW OAR Regions | Total Maximum Daily Load (TMDL) Pilot Projects in Florida and Wisconsin. The pilot projects are evaluating techniques for (1) determining the amount of mercury reductions needed to meet water quality standards; (2) determining the relative contributions of mercury from various sources; (3) the geographic extent of sources contributing mercury; and (4) analyzing Federal and State programs for reducing mercury emissions. | Both projects should be completed in early 2001. <i>GPRA 2.2</i> | |
| | OW/HECD ORD/NHEERL | Improvements in sediment bioavailability theory. Investigate issues such as: non-equilibrium conditions, aerobic sediments, seasonal fluxes, sediment ingestion. | Research reports that can be incorporated into existing ESGs to improve accuracy and precision. No date. <i>GPRA 2.2</i> | Heidi Bell: 202-260-5464 Mary Reiley: 202-260-9456 Walter Berry: 401-782-3101 Dave Mount: 218-529-5169 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------------------|--|---|---|
| | NHEERL/MED NHEERL/AED | Bioavailability of polycyclic aromatic hydrocarbons (PAHs) in sediments. A series of studies are underway to quantify the acute and sublethal toxic effects of PAHs to benthic freshwater and marine species. Specific studies include (1) evaluation of the effects of ultraviolet radiation on the toxicity of PAHs, (2) determination of the contribution of highly insoluble PAHs to toxicity, and (3) assessment of the effects of pyrogenic PAH geochemistry on PAH bioavailability | <p><i>Report on predicting metal toxicity in sediments, APM152, FY99</i></p> <p>Peer-reviewed publications and technical guidance to support derivation of Agency sediment guidelines.</p> <p><i>GPRA 2.2</i></p> | <p>Dave Mount 218-529-5169 (freshwater)</p> <p>Rob Burgess 401-782-3106 (marine)</p> |
| | NHEERL/MED NHEERL/AED | Bioavailability of metals in sediments. A series of studies are underway to quantify the acute and sublethal toxic effects of metals to benthic freshwater and marine species. Specific studies include (1) analysis of the toxicity of chromium when associated with anoxic sediments, (2) evaluation of the effects of resuspension on the fate and bioavailability of anoxic metal-contaminated sediments, and (3) performance assessment of <i>in situ</i> interstitial water sampling methods. | <p><i>Report on predictively metal toxicity in sediments, APM 152, FY99.</i></p> <p>Peer-reviewed publications and technical guidance to support derivation of Agency sediment guidelines.</p> <p><i>GPRA 2.2</i></p> | <p>Dave Mount 218-529-5169 (freshwater)</p> <p>Walter Berry 401-782-3101</p> <p>Rob Burgess 401-782-3106 (marine)</p> |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------|--|---|---------------------------------------|
| | NERL/ERD | Develop Computer Models for Science Integration and Parameterization of Multimedia Models for Watershed Scale Analysis and General Multimedia Exposure Assessments. Elucidate and model the underlying processes (physical, chemical, enzymatic, biological) that describe the transport and fate of organic pollutants and other stressors in environmental systems. | <i>Configure SPARC (SPARC Performs Automated Reasoning in Chemistry) as a prototype processes constants generator of pollutant fate for organic pollutants; and incorporate planned products on mathematical techniques to quantify coupled chemical speciation processes, and kinetic models describing reductive transformations processes (APM, 9/01).</i> <i>Configure SPARC as a prototype processes constants generator of pollutant fate for organic pollutants; and implement completed speciation models for ionization and tautomerization, and prototype models for hydrate formation, solution phase hydrolysis, and abiotic reduction in sediment suspensions (APM, 9/02).</i> <i>GPRA 2.2</i> | Samuel W . Karickhoff 706-355-8321 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------|---|--|----------------------------------|
| | NERL | Characterize the Sorption of Organic Pollutants in Soils and Sediments for SPARC. Measure the magnitude and kinetics of organic contaminant sorption and transport in soils and sediments; apply and compare the utility of bicontinuum and distributed parameter models for describing contaminant release from soils and sediments, and use the measured and estimated sorption/desorption kinetic descriptors developed for assessing long-term contaminant release from soils and sediments. | <i>Report on solute release kinetics from contaminated soils and sediments (APM, 9/02).</i> <i>GPRA 2.2</i> | Dermont Bouchard 706-355-8333 |
| | NERL/EERD | Develop Stressor Signatures of Habitat Degradation Among Metrics from Fish, Benthic Macroinvertebrate, and Periphyton Assemblages. Develop and evaluate biological indicators and prepare OW-ORD Stressor Identification Evaluation Guidelines that help to identify stressors and sources, including sediments. | <i>Method for developing diagnostic signatures; compendium of Regional case-studies that describe how causes of biological impairment were determined, FY01-FY02.</i> <i>Compendium of case studies illustrating the application of SIE guidelines, A75, FY01.</i> <i>GPRA 2.2</i> | Susan Cormier 513-569-7995 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------|--|---|-------------------------------|
| | NERL/EERD | Real-Time Aquatic Biomonitoring Using Bivalves in Two Watersheds. The water quality of two watersheds was monitored (Ohio and Texas). Both biological and physical/chemical metrics were recorded. The gape behavior of the bivalve <i>Corbicula fluminea</i> was used as a monitor of overall water quality. | <i>GPRA 2.2</i> | Jim Lazorchak 513-569-7076 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------|---|--|--|
| | NERL/ERD | Hazardous Waste Identification Rule (HWIR). This multimedia, multi-receptor, multi-stressor, open architectural modeling system is designed for establishing safe exit levels for some waste streams that may now require disposal in Subtitle C facilities. Specific to sediments in the HWIR application, ExamsIO presently simulates suspended solids as a conservative substance. Plans are to add simple routines to ExamsIO to handle net deposition, bed load in streams, and burial in ponds/lakes/wetlands/bays for more realistic estimates of TSS which would be passed to Exams. | <i>HWIR Human Health and Ecosystems Site (Generic) Exposure - Risk Assessment Screening Model Peer Reviewed and Applied to HWIR Listed Chemical Exit Levels - APM 187, 1999.</i> <i>Update the HWIR99 Modeling Methodology for Delisting Hazardous Wastes, in response to public comments on 1999 Federal Register Notice, and incorporating enhanced uncertainty analysis techniques into the revised methodology - APM BB8, FY01.</i> <i>Critical Review of Documented Aquatic and Terrestrial Plant Phyto Processes and Data Complete with Formulation of Kinetic Algorithms for Organic and Inorganic Pollutants of Concern - FY01.</i> <i>GPRA 5.2</i> | Dave Brown 706-355-8300 Gerry Laniak 706-355-8316 Steve McCutcheon 706-355-8235 |
| | NERL/ESD | SITE Demonstration of Sediment Sampling Technologies. Tested a split core sampler for submerged sediments and a Russian peat borer. | Demonstration Plan for Sediment Sampling - 1999 Verification Reports for Sediment Sampling - 2000. <i>GPRA 5.1</i> | Steve Billets 702-798-2232 Brian Schumacher 702-798-2242 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------|--|---|--|
| | NERL/HEASD | Biosensors. Addressing real-time and in situ monitoring devices which can be used cost-effectively at Superfund sites and RCRA facilities, as well as for ground-water monitoring. Biosensors are being evaluated for detection of contaminants such as phenols and pesticides. | Biosensors for Field Analytical Monitoring, Field Anal. Chem. Technol. 2, 317-331 - 1999. Determination of Phenols in Environmentally Relevant Matrices Using a Liquid Chromatographic System with an Enzyme-Based Biosensor. Field Anal. Chem. Technol. 3, 161-169 - 1999. Organophosphorus Hydrolase-Based Assay for Organophosphate Pesticides. Biotechnol Progress 15, 517-521 - 1999. Biosensors for Environmental Monitoring: An Update. Environ. Sci. Technol. Dec. 1, 500-506, 1999. Field Method/Biosensor for Detection of Phenols in Soil Leachate from Contaminated Superfund Sites - 2001. Microchip-Based CE System with Biosensor Detector for Measurement of Phenols - 2002. | Kim Rogers 702-798-2299 Jerry Blancato 702-798-2456 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------|---|--|---|
| | NERL/HEASD | Immunochemistry. Methods and applications are being developed for analytes such as PCBs, pesticides and heavy metals that are found at Superfund and RCRA sites. | Immunoassay Test Kits in Environmental Monitoring - to be published in Current Issues in Regulatory Chemistry, Publisher: Assoc. of Official Analytical Chemists (AOAC) - 1999. Comparison of Quantitative PCB ELISA with Gas Chromatography Determinative Versus Whole Method Effects - 2000. Monoclonal Antibodies for the Toxic Co-Planar PCBs and their Application to ELISA - 2001. PCB Detection Using a Doped Sol-Gel Modified Electrochemical Immunosensor - 2001. <i>Antibody Coated Sampling/Introduction Probe for Ion Trap Determination of Coplanar PCBs - APM 561, FY01.</i> | Jeanette van Emon 702-798-2154 Jerry Blancato 702-798-2456 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|------------------------------------|---|---|---|
| | NERL/ESD NERL/HEASD Region I | Mercury Cycling in the New England Estuaries: A Collaborative Study in Great Bay, NH (RARE Project). Research will examine cycling, bioavailability, and potential enhanced methylation of mercury in salt marshes in the Great Bay Estuary, NH. Mercury inputs from air and precipitation will be collected to calculate annual and seasonal deposition rates of Hg. | Speciation of Hg Uptake by <i>Spartina Alterniflora</i> - 2000. Methylation and Hg Production in a <i>Spartina Alterniflora</i> Salt Marsh - 2000. Influx of Hg to the Great Bay Estuary via Fog - 2000. Volatile Hg Fluctuation in the Great Bay Estuary - 2000. Mercury Cycling in the Great Bay Estuary ; U.S. EPA Report – 2001. <i>GPRA 2.2</i> <i>GPRA 2.3</i> | Brian Schumacher 702-798-2242 Jeanette van Emon 702-798-2154 |
| | NERL/ESD | Environmental Analytical Chemistry. This work is to provide state-of-the-science sampling, analysis, separation, and detection methods to allow rapid, accurate field and laboratory analyses of various media (e.g., surface or ground water, fish, sediments, soil). | Vacuum Distillation - hardware evaluation, operations manual, method development and testing, tech transfer to Regions - ongoing. Mercury in Fish from National Parks, PRIMENet data base - 2001. Reagent-free Determination of Mercury in Whole-Fish Homogenates Using a Combustion Furnace-Atomic Absorption Analyzer - 2001. Anthropogenic Chemical Loading in Fish from National Park Index Sites, journal article and data base - 2001. Fractionation of Toxic PCB Isomers Using Porous Graphitic Carbon HPLC and Determination by GC/HRMS - 2001. | Christian Daughton 702-798-2207 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
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| | NERL-EERD Region 2 Region 6 | Miniaturized sediment procedures for assessing toxicity using marine and freshwater amphipods and embryo/larval fish. Existing U.S. EPA methods were modified and two alternative methods developed. Freshwater methods include a 7-day amphipod, <i>Hyalella azteca</i> method and 7-day fathead minnow (<i>Pimephales promelas</i>) embryo/larval hatching method and two marine methods, a 10-day amphipod, <i>Ampelisca abdita</i> , and a 7-day sheepshead minnow (<i>Cyprinodon variegatus</i>) embryo/larval method. | <i>GPRA 2.2</i> | Jim Lazorchak 513-569-7076 Jim Ferretti 732 321 6728 Terry Hollister 281 983 2163 |
| | NERL-EERD | A sediment toxicity method using <i>Lemna minor</i> (duckweed). Developed a <i>Lemna minor</i> sediment toxicity test method to assess sediment contaminants which may affect plants. Sediments were also tested using a miniaturized freshwater amphipod method and a fathead minnow embryo/larval (FHM) survival test. A sediment reference toxicant method has been developed for KCl and Atrazine. | <i>GPRA 2.2</i> | Jim Lazorchak 513-569-7076 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------|---|---|------------------|
| | NCEA | Dermal Exposure Research Program. | | Michael Dellarco |
| | NCEA | Development of a wildlife contaminants exposure model (WCEM) as a tool for completing wildlife risk assessments. | | Susan Norton |
| | Region 1 | Charles River Fish Contaminant Survey. | | Peter Nolan |
| | Region 1 | Model Calibration Report for the Housatonic River. | | Susan Svirsky |
| | Region 1 | Model Validation Report for the Housatonic River. | | Susan Svirsky |
| | Region 1 | Model Frame Work Report for the Housatonic River. | | Susan Svirsky |
| | Region 1 | Monitoring the Success of Sediment Remediation at a Site Contaminated with Chlorinated Pesticides, Polynuclear Aromatic Hydrocarbons and Arsenic. | | Cornell Rosiu |
| | Region 4 | Everglades Pilot Study on Linking Air and Water Models for..... | | John Ackerman |
| | Region 9 | Analysis of San Francisco Bay Fish for Dioxin. | | Joel Pedersen |
| | Region 9 | Analysis of San Francisco Bay Sediments for Dioxin. | | Joel Pedersen |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|-----------------------------------|--|---|--|
| | Region 9 | Evaluation of Dioxin-Like Emissions from Residential Wood Combustion. | | Barbara Gross |
| | Region 10 | Arsenic Determination in Saline Waters by Hydride Generation – Inductively Coupled Plasma Mass Spectrometry. | | Katie Adama |
| | Region 10 | Compilation of report and data supporting the U.S. EPA study, “Asian and Pacific Islander Seafood Consumption Study in King County, Washington”. | | Roseanne Lorenzana |
| | Region 10 | Database of chemical analytical results for fish, shellfish, and plant tissues collected during June-July 1997 in areas of Cook Inlet. | | Roseanne Lorenzana |
| | Region 10 | Development of a low-level analytical method for co-planar PCB congeners in soil/sediment matrices using GC/ECD. | | Bob Rieck |
| | Region 10 | Native American Arsenic Exposure Study in Washington State. | | Rebecca Calderon |
| | NCER/ STAR grants and HSRCs | Developing Effective Ecological Indicators for Watershed Analysis. | | DT. Duncan Patten, Dr. Robert Crabtree, Dr. Wayne Minshall, Dr. Rick Lawrence |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|-----------------------------------|---|---|---|
| | NCER/ STAR grants and HSRCs | The Particle Size Distribution of Toxicity in Metal-Contaminated Sediments. | | James Ranville, Donald Macalady, Phillipe Ross1, William Clements |
| | NCER/ STAR grants and HSRCs | A Modeling and Experimental Investigation of Metal Release from Contaminated Sediments The Effects of Metal Sulfide Oxidation and Resuspension. | | G. Thomas Chandler Timothy J. Shaw |
| | NCER/ STAR grants and HSRCs | Processes Influencing the Mobility of Arsenic and Chromium in Reduced Soils and Sediments. | | Scott Fendorf |
| | NCER/ STAR grants and HSRCs | Trace Metal Dynamics in Reducing Aquatic Sediments Determination of Adsorption and Coprecipitation on Undisturbed Sediment Core Sections Using a Plug-Through Reactor. | | Philippe V an Cappell |
| | NCER/ STAR grants and HSRCs | Formation and Propagation of Large-scale Sediment Waves in Periodically Disturbed Mountain Watersheds. | | Gary Parker |
| | NCER/ STAR grants and HSRCs | Trophic Transfer of Atmospheric and Sedimentary Contaminants Into the Great Lakes Fisheries Controls on the Ecosystem Scale Response Times. | | Joel E. Baker; Nathaniel E. Ostrom |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|-----------------------------------|--|---|------------------------|
| | NCER/ STAR grants and HSRCs | Biogeochemical Control of Heavy Metal Speciation and Bioavailability in Contaminated Marine Sediments. | | James Shine |
| | NCER/ STAR grants and HSRCs | Distribution of Cs-137 in the Lena River Estuary-Laptev Sea System As Evidenced by Marine, Estuarine and Lacustrine Sediments. | | Ashanti Johnson Pyrtle |
| | NCER/ STAR grants and HSRCs | Effects of Interactions Between Sediment Components on Copper Sorption in Estuaries. | | Kea Duckenfield |
| | NCER/ STAR grants and HSRCs | The Effect of Sulfate and Sulfide on Mercury Methylation in Florida Everglades. | | Janina Benoit |
| | NCER/ STAR grants and HSRCs | Metal Speciation and Sequestering in Wetland Systems. | | Edward Peltier |
| | NCER/ STAR grants and HSRCs | Determination of Sediment Contribution from Unpaved Roads Within a Tropical Watershed. | | Alan Ziegler |
| | NCER/ STAR grants and HSRCs | Effect of Natural Dynamic Changes on Pollutant-Sediment Interaction. | | Tomson, Kan |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs in italics</i> | Contact |
|------|-----------------------------------|---|--|--|
| | NCER/ STAR grants and HSRCs | Controls on Metal Partitioning in Contaminated Sediments. | | F. M. Saunders; H. L. Windom, R. A. Jahnke |
| | NCER/ STAR grants and HSRCs | Source Identification, Transformation, and Transport Processes of N-, O-, and S-Containing Organic Chemicals in Wetland and Upland Sediments. | | W. James Catallo |
| | NCER/ STAR grants and HSRCs | Sediment Resuspension and Contaminant Transport in an Estuary. | | C. E. Adams, Jr., R. E. Ferrell, Jr. |
| | NCER/ STAR grants and HSRCs | Pollutant Fluxes to Aquatic Systems via Coupled Biological and Physicochemical Bed-Sediment Processes. | | Reible, Thibodeaux, Valsaraj, Fleeger |
| | NCER/ STAR grants and HSRCs | The Role of Competitive Adsorption on Suspended Sediments in Determining Partitioning and Colloidal Stability. | | H. G. McWhinney |
| | NCER/ STAR grants and HSRCs | Particle Transport and Deposit Morphology at the Sediment/Water Interface. | | Mark R. Wiesner |
| | NCER/ STAR grants and HSRCs | Mobilization and Fate of Inorganic Contaminants Due to Resuspension of Cohesive Sediment. | | T. W. Sturm, A. Amirtharajah, and C. L. Tiller |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|-----------------------------------|---|---|---|
| | NCER/ STAR grants and HSRCs | Desorption of Nonpolar Organic Pollutants from Historically Contaminated Sediments and Dredged Materials. | | Mason B. Tomson, Amy T. Kan, Gongmin Fu, Wei Chen, and Margaret A. Hunter |
| | NCER/ STAR grants and HSRCs | Freshwater Bioturbators in Riverine Sediments as Enhancers of Contaminant Release. | | A. D. W. Acholonu |
| | NCER/ STAR grants and HSRCs | Modelling Air Emissions of Organic Compounds from Contaminated Sediments and Dredged Materials. | | K. T. Valsaraj, L. J. Thibodeaux, D. D. Reible; J. M. Brannon, T. E. Myers, C. B. Price; J. S. Gulliver |
| | NCER/ STAR grants and HSRCs | Characterization of Laguna Madre Contaminated Sediments. | | A. N. S. Ernest |
| | NCER/ STAR grants and HSRCs | Mobility and Transport of Radium in Sediment and Waste Pits. | | DeLaune, Pardue, Patrick, Lindau |
| | NCER/ STAR grants and HSRCs | Pollutant Fluxes to Aquatic Systems via Coupled Biological and Physicochemical Bed-Sediment Processes. | | Reible, Thibodeaux, Valsaraj, Fleege |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|---|---------------------------|--|--|---|
| | NHEERL/GED | Improved protocols to determine hazards of contaminated sediments in the Gulf of Mexico. Development of existing field and laboratory data collected over the past 10 years in Gulf of Mexico estuaries to assess improvements in protocols for hazard assessments | Improved protocols to determine hazards of contaminated sediments in the Gulf of Mexico - FY03. <i>GPRA 2.2</i> | Michael Lewis 850-934-9382 |
| Exposure Activities related to determining exposure of human and biological receptors to contaminated sediments. These activities advance the state-of-the-art by development and verification of methods, models, protocols, and technologies. | OW/OST/SASD NHEERL/ORD | Development of methods for testing chronic toxicity of marine sediments. This will be a joint U.S. EPA/U.S. ACE document that will describe methods for measuring sublethal effects of marine sediments with <i>Leptocheirus plumulosus</i> . | Document has been published . <i>GPRA 2.2</i> | Scott Ireland 202-260-6091 Ted Dewitt 541-867-4029 |
| | OW/OST/SASD | Revised methodology for tiering classification for the National Sediment Inventory - Report to Congress. A technical advisory group has been established to modify/update the methodology for classifying sampling stations according to the probability of adverse effects on aquatic life and human health from sediment contamination. | Methodology completed. National Sediment Inventory - Report to Congress - FY01. <i>GPRA 2.2</i> | Scott Ireland 202-260-6091 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------|---|--|-------------------------------|
| | OW/OST/SASD | National Sediment Nonpoint Source Inventory and Assessment. This report is a supplement to the National Sediment Inventory. It characterizes nonpoint sources of sediment contamination and provides a national estimate of annual source loads of selected contaminants from identified categories of nonpoint sources. | Currently undergoing Peer Review. National Sediment Nonpoint Source Inventory and Assessment - Report to Congress - FY01 <i>GPRA 2.2</i> | Scott Ireland 202-260-6091 |
| | OW/OST/SASD | Bioaccumulation Testing And Interpretation For The Purpose of Sediment Quality Assessment: Status and Needs. This document was prepared to serve as a status and needs summary of the use of bioaccumulation data. | Published February 2000 (U.S. EPA-823-R-00-001). <i>GPRA 2.2</i> | Rich Healy 202-260-7812 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|-------------------------------|--|--|-----------------------------|
| | OW/OST/SASD | Methods for Collection, Storage, and Manipulation of Sediments for Chemical and Toxicological Analysis. This guidance manual covers collecting, handling, and transporting field sediments; manipulating sediments in the laboratory for chemical analysis and toxicological testing; and preparing formulated sediments for toxicological testing. | Draft document. Methods document to be completed FY01. <i>GPRA 2.2</i> | Rich Healy 202-260-7812 |
| | Region 5: Water and Superfund | FIELDS (Fully Integrated Environmental Location Decision Support) Team. The FIELDS System combines GIS, GPS, environmental database, web site, and graphics technologies with fieldwork experience. Joint tech transfer pilots with ORD and Regions 5, 6, and 9. Also used in risk management/remediation. | | Tim Drexler 312-353-4367 |
| | GLNPO | Use of Sediment Quality Guidelines to Predict Toxicity in Great Lakes Sediments. Joint project with USGS to evaluate the predictive ability of freshwater Sediment Quality Guidelines (SQGs). | Final Report - FY2001 | |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------|--|---|---------|
| | GLNPO | In-situ LIF System for the Assessment of PAH Contaminated Sediments. Field demonstration of a rapid, vertically discrete, in-situ technique for measuring PAH contamination in sediments. | Project Report - FY2002. <i>GPRA 2.2</i> | |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|----------------------------|---|---|---|
| | GLNPO | Sediment Assessment Framework Document. Joint effort with the Sustainable Fisheries Foundation to develop a sediment assessment framework to provide guidance on the use and evaluation of chemical, toxicity, benthic community, and bioaccumulation data from sediment assessments. | Framework Document FY2001. <i>GPRA 2.2</i> | |
| | OAR-OAQPS OW Regions | Total Maximum Daily Load (TMDL) Pilot Projects in Florida and Wisconsin. The pilot projects are evaluating techniques for (1) determining the amount of mercury reductions needed to meet water quality standards; (2) determining the relative contributions of mercury from various sources; (3) the geographic extent of sources contributing mercury; and (4) analyzing Federal and State programs for reducing mercury emissions. | Both projects should be completed by early 2001. <i>GPRA 2.2</i> | Ruth Chemerys (OW) 202-260-9038 Randy Waite (OAQPS) 919-541-5447 |
| | OAR-OAQPS OW Regions | Air/Water Interface Action Plan. Coordination effort between OAR and OW to address the problem of air deposition. | Plan to be completed by end of summer 2000. <i>GPRA 2.3</i> | Barbara Driscoll (OAQPS) 919-541-0164 Deb Martin (OW) 202-260-2729 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------|--|---|------------------------------|
| | GLNPO | GLNPO Grants Program. Annual program to provide financial and technical support to state and local agencies for the assessment and remediation of contaminated sediments in Great Lakes Areas of Concern (AOCs). | Ongoing Project reports posted on the web at www.epa.gov/glnpo . <i>GPRA 2.2</i> | Marc Tuchman 312-353-9184 |
| | NCEA-W | Sediment Toxicity Assessment Methods. The method in development combines bulk sediment toxicity testing with chemical concentrations measured in the same samples. A large database of paired sediment toxicity and chemistry data has been compiled. | <i>Final report describing the assessment method, APM A80, FY01.</i> <i>The method is being applied in the Office of Water's 2000 Report to Congress on Sediment Contamination Status and Trends.</i> <i>GPRA 2.2</i> | Susan Norton 202-564-3246 |
| | NCEA-W | Assessment of Toxicity of Dioxins and Related Compounds in Aquatic Wildlife. | | Christopher Cubbison |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------|--|--|--|
| | NHEERL/GED | <p>Assessment of the relationship of contaminated sediments to estuarine biotic effects. Statistical analyses are used to determine the types and strengths of relationships among contaminated sediment variables and biotic response variables.</p> | <p>Report on the relationship of toxicity of contaminated sediments to aquatic animals and vascular plants, FY00.</p> <p>Report on fish and contaminant indicators of estuarine condition, FY01.</p> <p><i>GPRA 2.2</i></p> <p>Correlations among water and sediment chemistry, pollutant loadings, and ecological condition of coastal estuaries, FY04.</p> <p>Report on the relationship between sediment quality and benthic community distribution and condition, FY04.</p> <p><i>GPRA 5.1</i></p> | <p>Michael Lewis 850-934-9382</p> <p>Kevin Summers 850-934-9244</p> <p>Virginia Engle 850-934-9354</p> |
| | NERL/EERD | <p>Development of Indicators as Measures of Ecosystem Sustainability. Indicator methods can be used to measure PAH exposure, to determine exposure exceeding natural background, and to evaluate changes in exposure to petroleum and combustion by-product (PAH) waste in dredged streams.</p> | <p>Draft report on national background and exposure criteria for indicators of exposure to PAHs (9/02).</p> | <p>Brian Hill 513-569-7077</p> <p>Susan Cormier 513-569-7995</p> |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------|--|--|--|
| | NHEERL/GED | Improved protocols to determine hazards of contaminated sediments in the Gulf of Mexico. Development of existing field and laboratory data collected over the past 10 years in Gulf of Mexico estuaries to assess improvements in protocols for hazard assessments. | Improved protocols to determine hazards of contaminated sediments in the Gulf of Mexico, FY03. <i>GPRA 2.2</i> | Michael Lewis 850-934-9382 |
| | NHEERL/GED | Assessment of reference conditions in estuaries of the Gulf of Mexico. Field study. Includes assessment of reference conditions for sediment contaminants and their seasonal and spatial variabilities. | Identification of sensitive benthic species, FY99. Reference conditions for sediments in Gulf of Mexico, FY01. <i>GPRA 2.2</i> | Michael Lewis 850-934-9382 |
| | NERL/EERD | Develop Indicators for Stressors in Environmental Media and Mixtures. Develop tests that can be used to determine toxicity of site samples of sediment, water, or discharge. Includes: Regional-scale toxicity assessment of sediment in the Mid-Atlantic and Southern Rockies; and warm water fish embryo larval test to assess potential exposure/effects from sediments. | Methods manual for sediment toxicity sample collection (9/00). <i>GPRA 2.2</i> | Jim Lazorchak 513-569-7076 Susan Cormier 513-569-7995 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------|---|--|--|
| | NERL/EERD | Indicator Development and Assessment of Large Rivers and Watersheds. New methods can be used to detect impairment in large rivers needing sampling by boat. Includes microbial metabolism of sediment. | Bioassessment protocol for large non-wadable rivers in the mid-Atlantic (9/01). <i>GPRA 2.2 and 8.1</i> | Florence Fulk 513-569-7379 Susan Cormier 513-569-7995 |
| | Region 1 | Assessment of Mercury in Hypolimnetic Lake Sediments of Vermont and New Hampshire. | | Hilary Snook |
| | Region 1 | Ecological Risk Assessment for the Housatonic River. | | Susan Svirskey |
| | Region 1 | Human Health Risk Assessment for the Housatonic River. | | Susan Svirskey |
| | Region 1 | Regional Applied Research Effort – Mercury Flux from Coastal Marsh. | | Alan VanArsdale |
| | Region 1 | Sediment Sampling Guidelines. | | Andy Beliveau |
| | Region 3 | A Benthic Macroinvertebrate Survey of Non-Tidal Tributaries of the Anacostia River Test Titles. | | Jim Green |
| | Region 3 | A Survey of Streams in the Primary Region of Mountain Top Mining/Valley Fill Coal Mining Draft 1. | | Jim Green |
| | Region 4 | Ecological Risk Assessment for LCP Superfund Site (NPL). | | Lynn Wellman |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|-----------------------------------|--|---|--|
| | Region 4 | Field and Laboratory Standard Operating Procedures and Quality Assurance Plan for Conducting Sediment and Nutrient Total Maximum Daily Loads. | | Bruce Pruitt |
| | Region 7 | Nebraska REMAP Report '98. | | Lyle Cowles |
| | Region 9 | Coastal EMAP Project. | | Terrence Fleming |
| | Region 9 | San Francisco Bay Wetlands Regional Monitoring Program. | | Paul Jones |
| | NCER/ STAR grants and HSRCs | Response of Methylmercury Production and Accumulation to Changes in Hg Loading: A Whole-ecosystem Mercury Loading Study. | | Cynthia C. Gilmour, Andrew Heyes, Robert P. Mason, and John M. Rudd |
| | NCER/ STAR grants and HSRCs | Validation of Sediment Quality Criteria in Southeastern Estuaries. | | Amy Huffman Ringwood |
| | NCER/ STAR grants and HSRCs | Application of Sediment Quality Criteria for Metals to a Montane Lotic Ecosystem: Field Validation During Reclamation of a Copper Mine Causing Acid Mine Drainage. | | Joseph S. Meyer, Jeffrey A. Lockwood, Richard W. Rockwell |
| | NCER/ STAR grants and HSRCs | Sediment Contamination Assessment Methods: Validation of Standardized and Novel Approaches. | | G. Allen Burton, Jr., Daniel Krane, Thomas Tiernan, Peter Landrum, William Stubblefield and William Clements |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|-----------------------------------|--|---|--|
| | NCER/ STAR grants and HSRCs | Meiofaunal Validation of EqP- Based Sediment Quality Criteria for Metal Mixtures in Estuarine Sediments Population to Community-Level Culturing Studies of Biogeochemical Controls on Bioavailability and Toxicity. | | G. Thomas Chandler and Thimothy J. Shaw |
| | NCER/ STAR grants and HSRCs | Developing a New Monitoring Tool for Benthic Organisms in the Gulf of Mexico Loss of Genetic Variability in Meiofaunal Populations. | | Paul A. Montagna |
| | NCER/ STAR grants and HSRCs | Bioavailability of Organic Contaminants in Estuarine Sediments to Microbes and Benthic Animals. | | Gary L. Taghon, David S. Kosson and Lily Y. Young |
| | NCER/ STAR grants and HSRCs | Environmental Monitoring and assessment of Wetlands Using Sedimentary Diatoms from Present and Past. | | R. Jan Stevenson |
| | NCER/ STAR grants and HSRCs | Sediment Entrainment and Stream Benthic Communities: Implications for Freshwater Bioassessment. | | Stephen Kenworthy |
| | NCER/ STAR grants and HSRCs | Studies of the environmental fate of sediment-associated organic contaminants in marine systems. | | P. Lee Ferguson |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--|--|---|--|
| | NCER/ STAR grants and HSRCs | Investigation on the Fate and Biotransformation of Hexachlorobutadiene and Chlorobenzenes in a Sediment-Water Estuarine System. | | Pavlostathis |
| | OSWER/OERR OSWER/OSW OSWER/TIO OW/OWOW OW/OST ORD/NRMRL ORD/Narraganset Regions | Development of Contaminated Aquatic Sediment Remediation Guidance. OERR has lead for cross-Agency workgroup (Contaminated Aquatic Sediments Remedial Guidance Workgroup – CASRGW) to develop guidance to select remedies for sediment sites under CERCLA. | Draft guidance on remediation - FY00/01. <i>GPRA 5.1</i> | Bruce Means 703-603-8815 Ernie Watkins 703-603-9011 |
| | Region 1 | Risk-Based Procedures Used to Support Remediation of a Ground Water-Surface Water Transition Zone Contaminated with Chlorobenzenes. | | Cornell Rosiu |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------------------|--|--|--------------------------------|
| | Region 2 | Full/Commercial-Scale Sediment Decontamination Technology Development with Beneficial Use Applications. Bench- through full-scale tests are being conducted to implement environmentally responsible and cost-effective technologies to decontaminate dredged material from the Port of NY/NJ. | Anticipate 1-2 systems processing >250,000 cu yd/yr by FY02. | Eric Stern 212-637-3806 |
| | OW/OST/SASD | Sediment Modeling Toolkit. The toolkit consists of three components: Graphical User Interface (GUI) to the Environmental Fluid Dynamics Code (EFDC) grid generator to set up physical domain; GUI interface to EFDC model; and post-processor to view model output. Design is flexible to allow support of other water quality models. | Beta test of toolkit beginning July 1, 2000 Version 1.0 distributed by end of FY 02. <i>GPRA 2.2</i> | Russell Kinerson 260-1330 |
| | Region 5: WPTD and GLNPO | Sediment Capping and Natural Recovery Project. A joint project between U.S. EPA, USGS, and COE WES to develop a guidance document on capping and natural attenuation. | | Dave Petrovski 312-886-0997 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|----------------|--|---|--|
| | GLNPO | GLNPO Grants Program. Annual program to provide financial and technical support to state and local agencies for the assessment and remediation of contaminated sediments in Great Lakes Areas of Concern. | Ongoing Project reports posted on the web at www.epa.gov/glnpo . <i>GPRA 2.2</i> | Marc Tuchman 312-353-9184 |
| | GLNPO | Demonstration of Contaminated Sediment Treatment Technologies. Joint efforts with the states of Michigan and Wisconsin perform on-site, pilot-scale demonstrations of sediment treatment technologies. | Pilot projects scheduled for FY2001. <i>GPRA 2.2</i> | Scott Cieniawski 312-353-9184 Marc Tuchman 312-353-1369 |
| | Region 5/GLNPO | Beneficial Use Work Group. Development of beneficial use guidelines; support to WI DNR project to develop guidance/criteria. Cooperation with state and federal agencies to perform pilot-scale beneficial use demonstrations. | Region 5 "Position Paper" on Criteria for the Evaluation of Beneficial Use Projects - FY2002. Project reports to be available on the web (www.epa.gov/glnpo) - FY2001. | Scott Cieniawski 312-353-9184 |
| | Region 5/GLNPO | Sediment Information Management System. A comprehensive, multi-program sediment site information database and tracking system for sediment remediation and management. | | Ken Klewin 312-886-4794 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|-------------------------------|---|---|-----------------------------------|
| | Region 5: Water and Superfund | FIELDS (Fully Integrated Environmental Location Decision Support) Team. The FIELDS System combines GIS, GPS, environmental database, web site, and graphics technologies with fieldwork experience. See description under Assessment. | | Tim Drexler 312-353-4367 |
| | Region 6 | Calcasieu Estuary. Region 6 is conducting a multi-media initiative, including the investigation and potential remediation of contaminated sediment. This is a three year pilot which will identify guidance, policy, and regulatory gaps as well as identifying better ways to coordinate large environmental responses. | | RPM: John Meyer (214) 665-6742 |
| | Region 10 | Regional Sediment/Sand Management (RSM) Initiative | | Joan Cabreza |
| | NRMRL/LRPCD | Remediation of PCB-Contaminated Sediments. This Congressionally-mandated study by the National Academy of Science is intended to evaluate the relative effectiveness, effects, and costs associated with a variety of methods for managing PCB-contaminated sediments. | <i>NAS report due to U.S. EPA and Congress, APM A81, FY01. Completed 3/01.</i> <i>GPRA 2.2</i> | Dennis Timberlake 513-569-7547 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------|--|---|--|
| | NRMRL/LRPCD | Dredging Performance. The effectiveness of dredging is being documented by the combined evaluation of past projects and completion of selected projects to fill data gaps. | Report on short-term effects, FY02. Report on the environmental and human health benefits of contaminant mass removal. – Date? <i>GPRA 5.1</i> | Dennis Timberlake 513-569-7547 |
| | NRMRL/LRPCD | Capping Performance. Data is being collected to determine performance of caps and the accuracy of model predictions of their performance. Selected field studies are being conducted to address specific questions related to short-term disturbances created during cap placement; permanence of cap performance; contaminant migration through caps and the accuracy of predictive models; and benthic and aquatic community responses to caps. Caps are being evaluated for applications in situ and in confined aquatic disposal sites. | Comparative report on in-situ technologies, FY04. <i>GPRA 5.1</i> | Dennis Timberlake 513-569-7547 Terry Lyons 513-569-7589 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|--|--------------|--|--|--|
| Assessment Activities related to assessing the risk associated with human or ecological exposure to contaminants in sediments. These activities advance the state-of-the-art development and verification of methods, models, protocols, and technologies. | NRMRL/LRPCD | Monitored Natural Attenuation. Research is investigating past performance at sites where MNA was selected intentionally and at sites where studies have been conducted over time without remedial action. Field studies are being conducted to fill data gaps, examine specific attenuation mechanisms, and collect data on long-term performance. Selected laboratory studies are being conducted to determine rates of contaminant sorption/desorption, and rates and endpoints of contaminant degradation. | Interim report, FY01. Sorption/desorption kinetics model, FY03. Technical Resource Document, FY04. <i>GPRA 5.1</i> | Dennis Timberlake 513-569-7547 Dick Brenner 513-569-7657 Fran Kremer 513-569-7346 |
| | NRMRL/LRPCD | Ex-Situ Management and Treatment Technologies. This research involves the performance of confined disposal facilities (CDFs) in managing risks from contaminated sediments disposed in hydraulic contact with the water body, treatments that can be applied to enhance the effectiveness of CDFs, and treatment/utilization of dredged material to recover CDF capacity. | <i>Peer reviewed journal article on biotreatment of PAH - contaminated sediments, APM 159, FY99.</i> <i>Peer reviewed journal article on treatment of chlorinated organics in sediment, APM 160, FY99.</i> Report on toxicity reductions from biological treatment of PAH-contaminated sediments, FY02. <i>GPRA 5.1</i> | Ed Barth 513-569-7669 Dick Brenner 513-569-7657 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|-----------------------------------|--|--|--|
| | NRMRL/LRPCD | SITE Demonstrations of Innovative Technologies. Under the Superfund Innovative Technology Demonstration Program, three vendor technologies for contaminated sediment sites have been accepted for demonstration: Minergy's glass forming process, IGT's Cement Block process, and AquaBlok's capping process. Additional projects are in the selection process. | Individual technology evaluation reports, FY03-05. <i>GPRA 5.1</i> | Annette Gatchett 513-569-7697 |
| | NRMRL/LRPCD | Innovative In-Situ Treatment Technologies. Ongoing bench research is investigating the use of hydrogen and zero-valent iron to respectively stimulate biological and chemical dechlorination of persistent chlorinated organic compounds such as PCBs, PCP, and DDT and the application of a particular microorganism to re-speciate lead into a sparingly soluble phosphate mineral. | Journal article on hydrogen addition - FY01 Journal article on Fe(0) - FY01. <i>GPRA 5.1</i> | Dennis Timberlake 513-569-7547 Greg Sayles 513-569-7607 Wendy Davis-Hoover 513-569-7206 |
| | NCER/ STAR grants and HSRCs | Microbial Community Dynamics of PCB Dechlorination in Sediments. | | G-Yull Rhee, Roger C Ellen Braun-Howland |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|-----------------------------------|--|---|---|
| | NCER/ STAR grants and HSRCs | Importance of Reductive Dechlorination in Chesapeake Bay Sediments Role of Sulfate Respiration. | | Douglas G. Capone, J Baker, and Cynthia C. |
| | NCER/ STAR grants and HSRCs | Effectiveness of Regulatory Incentives for Sediment Pollution Prevention Evaluation Through Policy Analysis and Biomonitoring. | | Seth Reice and Richard Andrews |
| | NCER/ STAR grants and HSRCs | Biotic and Abiotic Reductive Transformation of Chlorinated Solvents in Iron Reducing Sediments. | | Michael L. McCormic |
| | NCER/ STAR grants and HSRCs | Reduction of Herbicides in Wetland Sediments. | | Theodore Klupinski |
| | NCER/ STAR grants and HSRCs | Nitrogen Removal in Constructed Wetlands: Enhancement of Nitrate Mass Transfer in the Denitrification Zone. | | Maia Fleming |
| | NCER/ STAR grants and HSRCs | Investigation of the reductive transformation of chlorinated solvents in iron reducing sediments and to assess the relative contributions of biological and abiotic reactions to dechlorination. | | Mike McCormick |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|-----------------------------------|--|---|--|
| | NCER/ STAR grants and HSRCs | Reductive Dechlorination and Degradation of Model Chlorophenols in Marine and Estuarine Sediments. | | Kimberly Warner |
| | NCER/ STAR grants and HSRCs | Enhanced Microbial Dechlorination of PCBS and Dioxins in Contaminated Dredge Spoils. | | Max M. Höggblom and Cecilia Vargas |
| | NCER/ STAR grants and HSRCs | Evaluation of Placement and Effectiveness of Sediment Caps. | | D. D. Reible, K. T. Valsaraj and L. J. Thibodeaux |
| | NCER/ STAR grants and HSRCs | Isolating Organisms Which Dechlorinate Polychlorinated Biphenyls (PCBs). | | Tiedje |
| | NCER/ STAR grants and HSRCs | Development of a Model Sediment Control Ordinance for Louisiana. | | Donald Barbe, Ph.D. |
| | NCER/ STAR grants and HSRCs | Bioremediation of Sediments Contaminated with Polynuclear Aromatic Hydrocarbons. | | J. B. Hughes and C. H. Ward |
| | NCER/ STAR grants and HSRCs | The Application of Plant Biotechnology in Bioremediation of Contaminated Sediments. | | S.V. Sahi |
| | NCER/ STAR grants and HSRCs | Bioremediation of Contaminated Sediments and Dredged Material. | | Ward, Hughes |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|-----------------------------------|---|---|------------------------------|
| | NCER/ STAR grants and HSRCs | The Effect of Sediment Treatment on Sediment Metabolism Rates in Marsh Mesocosms. | | Cornwell (Liebert) |
| | NCER/ STAR grants and HSRCs | Characterization of PAH Degrading Bacteria in Coastal Sediments. | | M. G. Tadros |
| | NCER/ STAR grants and HSRCs | Mechanisms governing the release of contaminants from sediments resuspended during dredging operations. | | Davies, Voice |
| | NCER/ STAR grants and HSRCs | Use of chemical oxidants for the degradation of chlorinated benzenes and biphenyls in aqueous systems and sediments. | | Masten, Davies |
| | NCER/ STAR grants and HSRCs | An Investigation of Chemical Transport from Contaminated Sediment through Porous Containment Structures. | | Reible, Thibodeaux, Valsaraj |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|-----------------------|--|---|---|
| | OW/OST/SASD | Contaminated Sediment Pamphlet and Poster. The Pamphlet and Poster were designed to educate the public, including citizens groups and high school students on the definition and extent of contaminated sediment, sources of contamination, remediation and pollution prevention solutions, and what citizens can do to protect sediment. | Pamphlet and the Poster were released October 1999. Pamphlet (U.S. EPA-823-F-99-006), Poster (U.S. EPA-823-H-99-001). <i>GPRA #2</i> | Scott Ireland 202-260-6091 Rich Healy 202-260-7812 |
| | OW/OST/SASD | Sediment Network. Individuals from Regions (including GLNPO), HQ (OW & OSWER), and ORD that conference on a regular basis to communicate contaminated sediment issues. | | Rich Healy 202-260-7812 |
| | OW/HECD ORD/NHEERL | OW/ORD Sediment Research Team. A cross-program effort to coordinate research activities focusing on contaminated sediment. | | Heidi Bell: 202-260-5464 Mary Reiley: 202-260-9456 Walter Berry: 401-782-3101 Dave Mount: 218-529-5169 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------------------|--|---|---|
| | OSWER/OERR | Superfund Sediment Forum. Regional personnel who participate in regular conference calls about Superfund-specific issues related to sediment cleanups. | Ongoing | Sherri Clark 703-603-9043 Rich Norris 703-603-9053 |
| | OSWER/TIO NRMRL/LRPCD | Sediments Action Team, Remediation Technologies Development Forum. A partnership with industry to develop or advance innovative remediation technologies. | | Kelly Madalinski 703-603-9901 Dennis Timberlake 513-569-7547 |
| | OSWER/OERR | Updating CERCLIS3. Refining the Superfund sites database to adequately capture those sites which address contaminated sediments. | Ongoing | Sherri Clark 703-603-9043 Ernie Watkins 703-603-9011 |
| | OSWER/OERR | OW SedNet2000. Conference calls to share information. | Ongoing | Sherri Clark 703-603-9043 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|--|--------------------------------|---|---|---------------------------------|
| Remediation/ Risk Management Activities related to remediating or otherwise managing the risks of contaminated sediments. These activities advance the state-of-the-art by development and verification of methods, models, protocols, and technologies. | OSWER/OERR | Sediment Technology Video. Development of an outreach video for project managers to use at public meetings to show citizens the different technologies that might be considered at Superfund sites. | | Ernie Watkins 703-603-9011 |
| | GLNPO | GLNPO Sediments Web Page. Contains Sediment Assessment and Remediation Guidance Documents, Evaluations of Bench- and Pilot-Scale Sediment Treatment demonstrations, and other technical documents. Web page address: www.epa.gov/glnpo/sediments.html | Ongoing | Marc Tuchman 312-353-9184 |
| | NCER/ STAR grants and HSRCs | Need to add web page address. | | |
| | NCER/ STAR grants and HSRCs | A Short Course of Remediation of Contaminated Soils and Sediments. | | Kelly, Keefer, Rohde, Woldt |
| | Region 5: Superfund | Region 5 Sediment Web Page. | web page (under development). | Jim Rittenhouse 312-886-1438 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|-------------------------------|--|--|---|
| | Region 5: GLNPO and Superfund | Sediment Information Management System. A comprehensive, multi-program sediment site information database and tracking system for sediment remediation and management. | end of FY2000. | Ken Klewin 312-886-4794 Bonnie Eleder 312-886-4885 |
| | Region 5 and GLNPO | Great Lakes Dredging Team (GLDT). A federal-state-private partnership with the primary objective of ensuring that the dredging of the Great Lakes harbors and channels is conducted in a timely and cost effective manner while meeting environmental protection, restoration and enhancement goals. Provides an interactive forum; works with local advocates. | Great Lakes Dredging Team web site. GLDT outreach documents: <u>Dredging and the Great Lakes</u> booklet; dredging case studies; developing a dredging video; "Decision Making Process for Dredged Material Management" white paper; draft TSCA/RCRA white paper; Beneficial Use Task Force; development of a beneficial use brochure; beneficial use project to facilitate state input into development of guidelines; Beneficial Use Workshop held Sept. 15-16, 1998. | Bonnie Eleder 312-886-4885 Marc Tuchman 312-353-1369 |
| | Region 5: Water | Mississippi River Dredging Team. Similar objectives as GLDT | | Bill Franz 312-886-7500 |
| | Region 5 | Beneficial Use Work Group. Develop beneficial use guidelines; support WI DNR project to develop guidance/criteria. | | Scott Cieniawski 312-353-9184 |

| Area | Organization | Description | Product/Estimated Date <i>GPRA APGs/APMs</i> | Contact |
|------|--------------|--|---|--|
| | Region 5 | Technology transfer and communication products | <p>Sediment remediation video - in preparation - Superfund and Office of Public Affairs.</p> <p>“Environmental Results of Dredging Projects” paper/presentation – Date?</p> <p>Sediment Fact Sheet -- Date?</p> | <p>Brianna Bill 312-353-6646</p> <p>Jim Hahnenberg 312-353-3567</p> <p>Bonnie Eleder 312-886-4885</p> <p>Teresa Jones 312-886-0725</p> |
| | Region 5 | Great Lakes Regional Sediment Highlights | Quarterly regional sediment news | Bonnie Eleder 312-886-4885 |
| | Region 5 | Duluth Superior Technical Advisory Committee -and- Duluth Superior Partnering Agreement. Partnership to address maintenance of the federal navigation channel and long-term management of the dredged material. | | <p>Steve Hopkins 218-720-5738</p> <p>Bonnie Eleder 312-886-4885</p> |
| | Region 5 | WI Sediment Advisory Committee (participant on). | | Bonnie Eleder 312-886-4885 |

ORGANIZATIONAL UNIT KEY

| | |
|-------------|---|
| OSWER/OERR | Office of Solid Waste and Emergency Response/Office of Emergency and Remedial Response |
| OSWER/OSW | Office of Solid Waste and Emergency Response/Office of Solid Waste |
| OSWER/TIO | Office of Solid Waste and Emergency Response/Technology Innovation Office |
| OW | Office of Water |
| GLNPO | Great Lakes National Program Office, Office of Water, Chicago, IL. |
| OW/OST/SASD | Office of Water/Office of Science and Technology/Standards and Applied Science Division |
| OW/HECD | Office of Water/Health and Ecological Criteria Division |
| OAR | Office of Air and Radiation |
| OAQPS | Office of Air Quality Planning and Standards |
| ORD | Office of Research and Development |
| NHEERL | National Health and Environmental Effects Research Laboratory |
| AED | Atlantic Ecology Division |
| GED | Gulf Ecology Division |
| MED | Mid-Continent Ecology Division |
| WED | Western Ecology Division |
| NERL | National Exposure Research Laboratory |
| EERD | Ecological Exposure Research Division |
| ERD | Ecosystems Research Division |
| CEAM | Center for Exposure Assessment Modeling |
| EPIC | Environmental Photographic Interpretation Center |
| ESD | Environmental Sciences Division |
| MSCTSC | Monitoring and Site Characterization Technical Support Center |
| NCEA | National Center for Environmental Assessment |
| WO | Washington Office |
| NRMRL | National Risk Management Research Laboratory |
| LRPCD | Land Remediation and Pollution Control Division |
| ETSC | Engineering Technical Support Center |
| NCER | National Center for Environmental Research |
| STAR grants | Science to Achieve Results (STAR) grants |
| HSRCs | Hazardous Substance Research Centers |

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APPENDIX B

EXAMPLE OF A SUMMARY SHEET

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E.5 Support the demonstration of cost-effective treatment technologies and identification of potential beneficial uses of treatment products.**Key Partners:**

GLNPO, Region 2, ORD

Actions Underway:

The demonstration of decontamination technologies along with the development of marketable end-products is being actively promoted by Region 2 and GLNPO. Region 2, working in New York/ New Jersey Harbor in cooperation with New Jersey DOT, is investigating a sediment washing process whereby a manufactured top soil and bricks are produced, and two thermal treatment processes in which a blended cement and lightweight aggregate are potential marketable final products. The sediment washing project has been completed and the blended cement and lightweight aggregate demonstrations are scheduled for FY 2002 and 2003. GLNPO is currently supporting two technologies: a glass vitrification technology which produces construction fill (with the potential for roofing shingles and floor tiles); and a thermal process examining blended cement as an end product. The vitrification project has been completed as part of a joint effort with Wisconsin DNR on the Fox River. The blended cement project, a cooperative project with Michigan DEQ, is scheduled for the summer of 2002. Through the SITE Program, ORD is providing analytical support to provide independent verification of the results of the treatment technology processes.

Actions Planned Over Next 2 Years:

Region 2 plans to complete two demonstration and report on the Cement-Lock and lightweight aggregate technologies. GLNPO will conduct the Cement-Lock process on the Detroit River sediments. Reports describing the environmental as well as economic effectiveness of all demonstrations will be completed and distributed.

Products Expected by 2006:

1. Demonstrations and final reports for above projects completed and published.
 2. Complete economic evaluations of marketable final products along with development of cost estimates for running full scale operations of each technology tested.
-

3. Begin commercial application of decontamination technology in New York Harbor, including marketing of end-product.
4. Demonstrate applicability of treatment technology to Superfund program.

Primary Contacts:

Marc Tuchman–GLNPO

Eric Stern–Region 2

APPENDIX C

LIST OF ACRONYMS

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| | |
|--------|---|
| AED | Atlantic Ecology Division |
| APE | Alkylphenol Ethoxylate |
| ARCS | Assessment and Remediation of Contaminated Sediments |
| BAF | Bioaccumulation Factor |
| BSAF | Biota-Sediment Accumulation Factor |
| CAD | Contained Aquatic Disposal |
| CCME | Canadian Council of Ministers of the Environment |
| CDF | Confined Disposal Facilities |
| CEAM | Center for Exposure Assessment Modeling |
| CENR | Committee on Environment and Natural Resources |
| CERCLA | Comprehensive Emergency Response, Compensation, and Liability Act |
| COD | Chemical Oxygen Demand |
| CS | Contaminated Sediments |
| CSMC | Contaminated Sediment Management Committee |
| CSMS | Contaminated Sediment Management Strategy |
| CWA | Clean Water Act |
| DDT | Dichlorodiphenyltrichloroethane |
| DEQ | Department of Environmental Quality |
| DOT | Department of Transportation |
| ECGOx | ElectroChemical GeoOxidation |
| EERD | Ecological Exposure Research Division |
| EFDC | Environmental Fluid Dynamics Code |
| EPIC | Environmental Photographic Interpretation Center |
| EqP | Equilibrium Partitioning |
| ESD | Environmental Sciences Division |
| ESG | Equilibrium Partitioning Sediment Guidelines |
| FIELDS | Fully Integrated Environmental Location Decision Support System |
| FIFRA | Federal Insecticide, Fungicide, and Rodenticide Act |
| FWS | U.S. Fish and Wildlife Service |
| GC/MS | Gas Chromatography/Mass Spectrometer |
| GED | Gulf Ecology Division |
| GLNPO | Great Lakes National Program Office |
| GPRA | Government Performance Results Act |
| HECD | Health and Ecological Criteria Division |
| ITRC | Inter-State Technology and Regulatory Cooperation |
| LIF | Laser Induced Fluorescence |
| LRPCD | Land Remediation and Pollution Control Division |

| | |
|--------|---|
| MARAD | Maritime Administration (US Department of Transportation) |
| MDEQ | Michigan Department of Environmental Quality |
| MED | Mid-Continent Ecology Division |
| MPRSA | Marine Protection, Research, and Sanctuaries Act |
| MSCTSC | Monitoring and Site Characterization Technical Support Center |
| NAS | National Academy of Sciences |
| NASA | National Aeronautics and Space Administration |
| NCEA | National Center for Environmental Assessment |
| NDT | National Dredging Team |
| NERL | National Exposure Research Laboratory |
| NHEERL | National Health and Environmental Effects Research Laboratory |
| NMFS | National Marine Fisheries Service (NOAA) |
| NOAA | National Oceanic and Atmospheric Administration |
| NPDES | National Pollution Elimination Discharge System |
| NPL | National Priorities List |
| NPS | Nonpoint Source |
| NRC | National Research Council |
| NRD | National Resources Damages |
| NRML | National Risk Management Research Laboratory |
| NSF | National Science Foundation |
| NSI | National Sediment Inventory |
| OAQPS | Office of Air Quality Planning and Standards |
| OAR | Office of Air and Radiation |
| OCRM | Ocean and Coastal Resource Management (NOAA) |
| OECA | Office of Enforcement and Compliance Assurance |
| OEI | Office of Environmental Information |
| OERR | Office of Emergency and Remedial Response |
| OPA | Oil Pollution Act |
| ORD | Office of Research and Development |
| OST | Office of Science and Technology (OW) |
| OSW | Office of Solid Waste |
| OSWER | Office of Solid Waste and Emergency Response |
| OW | Office of Water |
| PAH | Polynuclear Aromatic Hydrocarbons |
| PBT | Persistent, Bioaccumulative, and Toxic |
| PCB | Polychlorinated Biphenyls |
| PIANC | International Navigation Association |
| PRP | Potentially Responsible Parties |

| | |
|----------|---|
| PSEP | Puget Sound Estuary Program |
| QA/QC | Quality Assurance/Quality Control |
| R&D | Research and Development |
| RaDiUS | Research and Development in the United States |
| RAP | Remedial Action Plan |
| RCRA | Resource Conservation and Recovery Act |
| RCT | Research Coordination Team |
| RSAC | Research Strategy Advisory Committee |
| RTDF | Remedial Technologies Development Forum |
| SAB | Science Advisory Board |
| SASD | Standards and Applied Science Division |
| SF | Superfund |
| SIMS | Sediment Information Management System |
| SITE | Superfund Innovative Technology Evaluation |
| SP | Science Plan |
| SPC | Science Policy Council |
| STAR | Science To Achieve Results |
| STORET | Storage and Retrieval |
| TIE | Toxicity Identification Evaluation |
| TIO | Technology Innovation Office |
| TMDL | Total Maximum Daily Loads |
| TSCA | Toxic Substance Control Act |
| U.S. | United States |
| U.S. ACE | United States Army Corps of Engineers |
| U.S. EPA | United States Environmental Protection Agency |
| USGS | United States Geological Survey |
| W | Washington Office |
| WASP | Water Quality Analysis Simulation Program |
| WED | Western Ecology Division |
| WRDA | Water Resources Development Act |
